

WHAT IS CLAIMED IS:

1. A method for making a pelleted animal feed supplement comprising:
crushing a solid urea product having an average particle size of at least 2.5 millimeters to form a crushed urea having an average size of from about 0.4 millimeters to about 2.0 millimeters;
adding said crushed urea to at least one animal feed ingredient and
forming said pelleted animal feed supplement.
2. The method according to claim 1, wherein said crushed urea has an average particle size of between about 0.6 millimeters to about 1.65 millimeters.
3. The method according to claim 1, wherein said crushed urea has an average particle size of between about 0.7 millimeters to about 1.5 millimeters.
4. The method according to claim 1, wherein said at least one animal feed ingredient is selected from the group consisting of grain products, plant protein products, animal protein products, roughage products, and vitamin and mineral supplements, and mixtures thereof.
5. The method according to claim 1, wherein the crushing of said solid urea product is performed in a roller mill.
6. The method according to claim 1, wherein said solid urea product is a fertilizer grade prilled urea product.

7. The method according to claim 6, wherein said fertilizer grade prilled urea product has a particle size of between 2.5 millimeters and 5 millimeters.

8. The method according to claim 1, wherein said solid urea product is a fertilizer grade granular urea product.

9. A method for making an animal feed product comprising:
crushing a solid urea product having an average particle size of at least 2.5 millimeters to form a crushed urea having an average size of from about 0.4 millimeters to about 2.0 millimeters;
adding said crushed urea to at least one animal feed ingredient;
forming a pelleted animal feed supplement product; and
mixing said pelleted animal feed supplement product with an animal feedstuff product.

10. The method according to claim 9, wherein said crushed urea has an average particle size of between about 0.6 millimeters to about 1.65 millimeters.

11. The method according to claim 9, wherein said crushed urea has an average particle size of between about 0.7 millimeters to about 1.5 millimeters.

12. The method according to claim 9, wherein said at least one animal feed ingredient is selected from the group consisting of grain products, plant protein products, animal protein products, roughage products, and vitamin and mineral supplements, and mixtures thereof.

13. The method according to claim 9, wherein said animal feedstuff product is selected from the group consisting of corn silage, grass haylage, alfalfa haylage, steam flaked corn, alfalfa hay, grass hay, animal production wastes, fruit wastes, vegetable processing wastes, green chop plant products, fermented milk products, brewery wastes, and human food waste.

14. The method according to claim 13, wherein said animal feedstuff product is selected from the group consisting of corn silage, grass or alfalfa haylage, steam flaked corn, alfalfa or grass hay.

15. The method according to claim 9, wherein the crushing of said solid urea product is performed in a roller mill.

16. The method according to claim 9, wherein said solid urea product is a fertilizer grade prilled urea product.

17. The method according to claim 16, wherein said fertilizer grade prilled urea product has a particle size of between about 2.5 millimeters and about 5 millimeters.

18. The method according to claim 9, wherein said solid urea product is a fertilizer grade granular urea product.

19. A method for making a complete animal feed product comprising:
crushing a solid urea product having an average particle size of at least 2.5 millimeters to a crushed urea having an average size of from about 0.4 millimeters to about 2.0 millimeters;

adding said crushed urea to at least one animal feed ingredient; and
forming a complete animal feed product.

20. The method according to claim 19, wherein said crushed urea has an average particle size of between about 0.6 millimeters to about 1.65 millimeters.

21. The method according to claim 19, wherein said crushed urea has an average particle size of between about 0.7 millimeters to about 1.5 millimeters.

22. The method according to claim 19, wherein said at least one animal feed ingredient is selected from the group consisting of grain products, plant protein products, animal protein products, roughage products, and vitamin and mineral supplements, and mixtures thereof.

23. The method according to claim 19, wherein the crushing of said solid urea product is performed in a roller mill.

24. The method according to claim 19, wherein said solid urea product is a fertilizer grade prilled urea product.

25. The method according to claim 19, wherein said fertilizer grade prilled urea product has a particle size of between about 2.5 millimeters and about 5 millimeters.

26. The method according to claim 19, wherein said solid urea product is a fertilizer grade granular urea product.

27. A pelleted animal feed supplement comprising:
at least one animal feed ingredient and

a solid urea pelleted with said at least one animal feed supplement ingredient,
wherein said urea has an average particle size from about 0.4 millimeters to about 2
millimeters, and further wherein said urea is not a micro-prilled urea.

28. The composition according to claim 27, wherein said solid urea has an
average particle size of between about 0.6 millimeters to about 1.65 millimeters.

29. The composition according to claim 27, wherein said solid urea has an
average particle size of between about 0.7 millimeters to about 1.5 millimeters.

30. The composition according to claim 27, wherein said at least one
animal feed supplement ingredient is selected from the group consisting of grain
products, plant protein products, animal protein products, roughage products, and
vitamin and mineral supplements, and mixtures thereof.

31. The composition according to claim 27, wherein said solid urea is
present in an amount of from about 0.5 to about 100% by weight of said pelleted
animal feed supplement.

32. The composition according to claim 27, wherein said solid urea
contributes between 0.5 to 100% of the total crude protein of said pelleted animal feed
supplement.

33. The composition according to claim 27, wherein said solid urea has a sphericity, ψ , of from about 0.05 to about 0.65.

34. The composition according to claim 27, wherein said solid urea has a Waddell roundness, ρ , of from about 0.05 to about 0.25.

35. The composition according to claim 27, wherein said solid urea product has a sphericity, ψ , of from about 0.05 to about 0.65 and a Waddell roundness, ρ , of from about 0.05 to about 0.25.

36. The composition according to claim 27, wherein said animal feed supplement is a ruminant animal feed supplement.

37. An animal feed comprising:
at least one animal feed ingredient;

a solid urea pelleted with said animal feed supplemental ingredient to form a pelleted animal feed supplement product, wherein said urea has an average particle size from about 0.4 millimeters to about 2 millimeters, and wherein said solid urea is not a micro-prilled urea; and

an animal feedstuff product mixed with said pelleted animal feed supplement product.

38. The composition according to claim 37, wherein said solid urea has an average particle size of between about 0.6 millimeters to about 1.65 millimeters.

39. The composition according to claim 37, wherein said solid urea has an average particle size of between about 0.7 millimeters to about 1.5 millimeters.

40. The composition according to claim 37, wherein said at least one animal feed supplement ingredient is selected from the group consisting of grain products, plant protein products, animal protein products, roughage products, and vitamin and mineral supplements, and mixtures thereof.

41. The composition according to claim 37, wherein said animal feedstuff product is selected from the group consisting of corn silage, grass haylage, alfalfa haylage, steam flaked corn, alfalfa hay, grass hay, animal production wastes, fruit wastes, vegetable processing wastes, green chop plant products, fermented milk products, brewery wastes, and human food waste.

42. The composition according to claim 41, wherein said animal feedstuff product is selected from the group consisting of corn silage, grass haylage, alfalfa haylage, steam flaked corn, alfalfa hay, and grass hay.

43. The composition according to claim 37, wherein said solid urea is present in an amount of from about 0.5 to about 100% by weight of said pelleted animal feed supplement.

44. The composition according to claim 37, wherein said solid urea has a sphericity, ψ , of from about 0.05 to about 0.65.

45. The composition according to claim 37, wherein said solid urea has a Waddell roundness, ρ , of from about 0.05 to about 0.25.

46. The composition according to claim 37, wherein said solid urea product has a sphericity, ψ , of from about 0.05 to about 0.65 and a Waddell roundness, ρ , of from about 0.05 to about 0.25.

47. The composition according to claim 37, wherein said animal feed is a ruminant animal feed.

48. A complete animal feed comprising:
at least one animal feed ingredient; and

a solid urea combined with said animal feed ingredient to form a complete animal feed product, wherein said urea has an average particle size from about 0.4 millimeters to about 2 millimeters, and wherein said solid urea is not a micro-prilled urea.

49. The animal feed according to claim 48, wherein said solid urea has an average particle size of between about 0.6 millimeters to about 1.65 millimeters.

50. The animal feed according to claim 48, wherein said solid urea has an average particle size of between about 0.7 millimeters to about 1.5 millimeters.

51. The animal feed according to claim 48, wherein said at least one animal feed ingredient is selected from the group consisting of grain products, plant protein products, animal protein products, roughage products, and vitamin and mineral supplements, and mixtures thereof.

52. The animal feed according to claim 48, wherein said solid urea is present in an amount of from about 0.1 to about 2% by weight of said animal feed product.

53. The animal feed according to claim 48, wherein said solid urea has a sphericity, ψ , of from about 0.05 to about 0.65.

54. The animal feed according to claim 48, wherein said solid urea has a Waddell roundness, ρ , of from about 0.05 to about 0.25.

55. The animal feed according to claim 48, wherein said solid urea has a sphericity, ψ , of from about 0.05 to about 0.65 and a Waddell roundness, ρ , of from about 0.05 to about 0.25.

56. The animal feed according to claim 48, wherein said complete animal feed product is pelleted.